

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### Preformed Line Products Co.

#### Arkansas Manufacturing Solutions

#### Preformed Line Products Company's Kaizen Approach to Continuous Improvement

##### Client Profile:

The Preformed Line Products Company (PLP) is a manufacturer of telecommunications and power hardware. PLP employs 250 people at the Rogers, Arkansas, facility.

##### Situation:

PLP implemented Total Quality Management as a philosophy in 1990. In 2001, PLP asked the Arkansas Manufacturing Solutions (AMS), formerly known as the Arkansas Manufacturing Extension Network, a NIST MEP network affiliate, to expose a group of employees and managers to the concepts of Lean Manufacturing. Continuous improvement teams successfully implemented 5S and workplace organization and eliminated many obvious 'wastes' in the system. In February of 2004, AMS was again asked to move PLP forward by facilitating a week long Kaizen event on the Coyote product line.

##### Solution:

A Kaizen Team was assembled from eleven coyote line workers and a facilitator from AMS. Two engineers, two managers, and the Plant Manager were also available and assisted throughout the week. A value stream map of the process was created generating a list of improvements needed to arrive at the future state. This list included improving the workplace organization, several individual process improvements, and a complete redesign of the cell layout. The team, with little hesitation and loads of energy, tackled the list and got phenomenal results in a very short period of time. The Kaizen (continuous improvement) approach is now spreading throughout the plant with participation at all levels of the company. The attitudes and enthusiasm of the team members was directly related to the successful implementation of lean manufacturing in the Coyote cell. Their hard work is spreading throughout the company and has allowed PLP to better satisfy the goals of the corporate mission.

##### Results:

###### 5S Workplace Organization Changes:

- \* Created shadow boards for tool locations.
- \* Organized and used color codes for tooling on end plate tape press machine.
- \* Designed and created a visual labor loading/scheduling board for the work cell.

###### Process Improvements:

- \* Created one piece flow.
- \* Established an in-cell warehouse for cell parts.
- \* Eliminated the grease operation on O-ring assembly.
- \* Combined the glue and press operations.
- \* Eliminated a five hour wait time before inspection of gasket.

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- \* Redesigned the stud installation tool for improved ergonomics and process time.
- \* Developed plans to eliminate the white mark and tag operation on end plates.
- \* Incorporated bracket assembly into the work cell.
- \* Incorporated O-ring sub-assembly into the work cell.
- \* Eliminated the heat lamp operation.
- \* Reduced changeover time on bolt machine from 30 minutes to 2 minutes.
- \* Reduced changeover time on end plate tape press from 7 minutes to 30 seconds.

### Manpower changes:

- \* Reduced number of required operators for the end plate cell from 7 to 4.
- \* Reduced number of required operators for the shell cell from 4 to 3.
- \* Moved off-site packaging operation into the cell and utilized available worker for packaging operation.

### Cell Layout Changes:

- \* Reduced part travel time by 87 percent.
- \* Reduced operator travel time by 89 percent.

### Bottom Line Results:

- \* Reduced floor space by 65 percent.
- \* Reduced work in process by more than 90 percent.
- \* Reduced lead time by more than 90 percent.
- \* Reduced cycle time by more than 90 percent.
- \* Reduced part cost by 60 percent.

### Testimonial:

"In 39 years as a plant manager I have seen many successful methods and process improvements. AMS and Loren Berry did an outstanding job of identifying the total process and opportunities for improvement. They then led the employees through the major improvements of the entire process without capital investment. They trained the employees and their value stream managers so well in the process that they have continued to make improvements since the kaizen completed."

Bill W. Sutton, Plant Manager